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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/780,497

Applicant(s)

FELTS ET AL.

Examiner

SHIRLEY X. ZHANG

Art Unit

2444

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

This final office action is prepared in response to the applicant's amendments and arguments filed on September 10, 2008 as a reply to the non-final office action mailed on June 11, 2008.

Claims 1, 11, 18 and 25 have been amended;

Claims 1-34 are now pending;

Response to Arguments

Applicant's arguments and amendments filed on September 10, 2008 have been carefully considered but deemed unpersuasive in view of the following new grounds of rejection as explained herein below, necessitated by Applicant's amendments to the claims which affected the scope thereof, and will require further search and consideration.

Accordingly, THIS ACTION IS MADE FINAL. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

1. Regarding the newly added limitation "the first user interface includes a silent mode in which the user can specify at least one operation for the first user interface to perform using a user-defined script", Examiner would like to point out that Patterson disclosed 1) an action definition feature that allows a script of action to be executed when a new server has been added to a tier (Patterson, column 14, lines 61-67 and column 15 lines 1-18); and 2) a graphical IDC monitor that allows a user to define scripts which will be run in response to error and warning

conditions (Patterson, column 4, lines 49-62). Both disclosures read on the newly added limitation of performing an operation using a user-defined script.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1-6, 9-13, 16-20, 23-34** are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 7,093,005 to **Patterson**, in view of the web article “Java Server Startup” published by BEA systems in 2000 (hereinafter “**JavaServerStartup**”).

Regarding claim 1, Patterson teaches a computer based interactive tool for configuring a domain (column 2, line 67 discloses an instant data center or a virtual server farm that is equivalent to a domain), comprising:

at least one processor and a memory space for storing instructions;

providing a first user interface operable to configure the domain (Fig. 2A-2C discloses the hierarchy of Web pages that can be accessed by network administrator to design, create and manage virtual server farms; Fig. 3A further discloses one embodiment of the graphic user interface for configuring a virtual server farm);

wherein the first user interface is also operable to extend the domain using an extension template, (column 8, lines 29-46 disclose that in the Customization phase, after a data center is created, the user may add content information, such as Web pages or database information to one or more servers in the data center; such customization is to extend the domain; column 39, section 7.0 "Representation of Instant Data Centers" further discloses that a textual representation of a data center, including the customized or modified configuration settings entered by the user, is created and stored using statements expressed in Farm Editor Markup Language (FEML), a XML-based language, where column 40, lines 21-22 particularly point out that a servlet process 812 is used to transfer a copy of FEML texts to servers in the data center. The FEML text is equivalent to the template recited in the instant application),

wherein the first user interface includes a silent mode in which the user can specify at least one operation for the first user interface to perform using a user-defined script (Patterson disclosed in column 14, lines 61-67 and column 15 lines 1-18 an action definition feature that allows a script of action to be executed when a new server has been added to a tier; Patterson further disclosed in column 4, lines 49-62 a graphical IDC monitor that allows a user to define scripts which will be run in response to error and warning conditions. Both disclosures read on the newly added limitation of performing an operation using a user-defined script);

providing a second user interface operable to configure a cluster (Fig. 4A discloses a user interface for configuring a server tier, which is a cluster of servers);

wherein configuration of the domain is based on a domain template (column 9, lines 47-50 disclose that the logical structure of an instant data center can be saved and used as a blueprint

("DNA") for creating any number of other IDCs that have the same logical structure, i.e., a data center DNA is a domain template);

wherein the extension template includes one or more applications, services (column 8, lines 35-44 specifically disclose that in the Customization phase, the user may apply one or more software images to servers in the data center. The selection of a software image and its application to a server may be carried out in accordance with a role that is associated with the servers, for example, if a first server has the role Web Server, then it is given a software image of an HTTP server program, a CGI script processor, Web pages, etc. If the server has the role Database Server, then it is given a software image that includes a database server program and basic data; in the above disclosure, the HTTP server program and the database server program are applications/services included in the configuration settings, which are eventually converted into the FEML text as a template and distributed to the servers in the data center, according to the disclosure in column 39, section 7.0); and

wherein the cluster belongs to the domain (column 10, lines 19-33 disclose that a data center may be structured to include a Web server tier, a database server tier, and an application server tier, where a server tier is a cluster of servers that belongs to a data center).

Patterson does not expressly disclose that the extension template includes startup/shutdown classes. However, Patterson does disclose in column 30, lines 35-36 that a server image could comprise an operation system, Web server, and a particular set of Web applications. It is well known that server side Web applications can be implemented using java, and Java server may implement startup/shutdown classes. For instance, the article "Java Server Startup" published in 2000 discloses such classes.

It would have been obvious for one of ordinary skill in the art to implement Patterson's Web applications using java and specifically implement the server startup/shutdown classes as taught by the article "Java Server Startup". Patterson's disclosure in column 40, lines 21 and 43 of using Servlet to transfer FEML text is an evidence that Java is preferred technology for implementing Web applications. Such disclosure would have motivated one skilled in the art to bring into Patterson's Web server application other features of Java including the startup/shutdown classes, with reasonable expectation of success.

Regarding claim 11, Patterson teaches a method for configuring a domain (column 2, line 67 disclose an instant data center or a virtual server farm that is equivalent to a domain) with a computer based interactive tool (Fig. 3A discloses a screen shot of the interactive configuration tool), comprising:

selecting a domain template with the computer based interactive tool (column 9, lines 47-50 disclose that the logical structure of an instant data center can be saved and used as a blueprint ("DNA"));

configuring the domain based on the domain template (column 14, lines 40-41 disclose that the Visual Editor enables a user to select a design of an instant data center from one of a plurality of templates);

updating the domain based on an extension template (column 39, section 7.0 "Representation of Instant Data Centers" discloses that a textual representation of a data center, including the customized or modified configuration settings entered by the user, is created and stored using statements expressed in Farm Editor Markup Language (FEML), a XML-based

language, where column 40, lines 21-22 particularly point out that a servlet process 812 is used to transfer a copy of FEML texts to servers in the data center. The FEML text is equivalent to the template recited in the instant application),

wherein the interactive tool includes a silent mode in which the user can specify at least one operation for the first user interface to perform using a user-defined script (Patterson disclosed in column 14, lines 61-67 and column 15 lines 1-18 an action definition feature that allows a script of action to be executed when a new server has been added to a tier; Patterson further disclosed in column 4, lines 49-62 a graphical IDC monitor that allows a user to define scripts which will be run in response to error and warning conditions. Both disclosures read on the newly added limitation of performing an operation using a user-defined script);

wherein the extension template is customizable and includes one or more applications, services (column 8, lines 35-44 specifically disclose that in the Customization phase, the user may apply one or more software images to servers in the data center. The selection of a software image and its application to a server may be carried out in accordance with a role that is associated with the servers, for example, if a first server has the role Web Server, then it is given a software image of an HTTP server program, a CGI script processor, Web pages, etc. If the server has the role Database Server, then it is given a software image that includes a database server program and basic data; in the above disclosure, the HTTP server program and the database server program are applications/services included in the configuration settings, which are eventually converted into the FEML text that is distributed to the servers in the data center, according to the disclosure in column 39, section 7.0);

wherein the domain template is customizable (column 9, lines 47-50 disclose that the logical structure of an instant data center can be saved and used as a blueprint (“DNA”) for creating any number of other IDCs that have the same logical structure; column 14, lines 42-50 further disclose that the user can change the configurations in a data center; therefore it is inherent that a data center DNA can be customized); and

wherein the domain template includes a set of configuration parameters (column 19, line 49, section 3.1 “Functional Overview” disclose that the graphical representation of a data center, i.e., the domain template, comprises a set of graphical icons representing various servers, fire walls, and other network elements, and the interconnection of the graphical icons, each of which is inherently associated with a set of parameters).

Patterson does not expressly disclose that the extension template includes startup/shutdown classes. However, Patterson does disclose in column 30, lines 35-36 that a server image could comprise an operation system, Web server, and a particular set of Web applications. It is well known that server side Web applications can be implemented using java, and Java server may implement startup/shutdown classes. For instance, the article "Java Server Startup" published in 2000 discloses such classes.

It would have been obvious for one of ordinary skill in the art to implement Patterson's Web applications using java and specifically implement the server startup/shutdown classes as taught by the article “Java Server Startup”. Patterson’s disclosure in column 40, lines 21 and 43 of using Servlet to transfer FEML text is an evidence that Java is preferred technology for implementing Web applications. Such disclosure would have motivated one skilled in the art to

bring into Patterson's Web server application other features of Java including the startup/shutdown classes, with reasonable expectation of success.

Regarding claim 2, the combination of Patterson and JavaServerStartup article teaches the computer based interactive tool of claim 1. Patterson further teaches that the tool includes an option to select the domain template (column 14, lines 39-41 disclose that the Visual Editor enables the user to select a design from one of a plurality of templates, or data center DNAs; column 19, line 47, section 3.0 "Graphical Editor" discloses more details about the Visual/Graphical Editor).

Patterson does not specifically disclose that the option to select domain template is included in **the first user interface**.

However, it would have been obvious to one of ordinary skill to modify Patterson as such that the first user interface includes the option to select the domain template. One would have been motivated to make such modification because Patterson and the invention is functionally the same. The difference between them is in the organization of user interfaces, which is merely a matter of design choice.

Regarding claim 3, the combination of Patterson and JavaServerStartup article teaches the computer based interactive tool of claim 1. Patterson further teaches that the tool includes an option to customize the domain template (column 9, lines 47-50 disclose that the logical structure of an instant data center can be saved and used as a blueprint ("DNA") for creating any number of other IDCs that have the same logical structure; column 14, lines 42-50 further

disclose that the user can change the configurations in a data center; therefore it is inherent that a data center DNA can be customized).

Patterson does not specifically disclose that the option to customize the domain template is included in **the first user interface of the tool**.

However, it would have been obvious to one of ordinary skill to modify Patterson as such that the first user interface includes the option to customize the domain template. One would have been motivated to make such modification because Patterson and the invention is functionally the same. The difference between them is in the organization of user interfaces, which is merely a matter of design choice.

Regarding claims 4 and 12, the combination of Patterson and JavaServerStartup article teaches the computer based interactive tool of claim 1 and the method of claim 11, respectively.

Patterson further teaches an administration server (Fig. 1D and column 9, lines 36-39 disclose an administration server comprising one or more farm managers where a farm manager manages one or more virtual server farms) and a set of resources and/or services that can be managed as a unit (throughout Patterson, and especially in column 1, lines 30-31, it is disclosed that a data center/virtual server farm includes network resources and/or services such as a plurality of servers, one or more load balancers, firewalls and other network elements that together are managed as a unit).

Patterson does not specifically teach that a domain includes an administration server.

However, based on Patterson's disclosure on farm manager and the farm manager's relationship with a virtual server farm, it would have been obvious for one of ordinary skill in the art at the time of the invention to logically define a domain that includes a farm manager of

Patterson's and the corresponding virtual server farm, where the farm manager is equivalent to the administration server recited in the invention. One would have been motivated to modify as such to have a clear logical partition of network elements to simplified the network management.

Regarding claim 5, the combination of Patterson and JavaServerStartup article discloses the computer based interactive tool of claim 1 wherein the domain template includes a set of configuration parameters (column 19, lines 50-62 disclose that the graphical design of a data center, i.e., the domain template, comprises a set of graphical icons representing various servers, fire walls, and other network elements, and the interconnection of the graphical icons, each of which is associated with a set of parameters).

Regarding claims 6 and 13, the combination of Patterson and JavaServerStartup article discloses the computer based interactive tool of claim 5 and the method of claim 11, respectively, wherein the set of configuration parameters includes at least one of

- 1) an application (column 9, lines 55-67 disclose that a data center DNA can specify the role and associated applications of a server);
- 2) a server (column 9, lines 55-67 disclose that a data center can be defined in terms of a number of basic building blocks such as web servers and database servers, therefore the configuration parameters include a server);
- 3) information related to configuring a database (column 10, lines 21-24 disclose a two-tier configuration including a Web server tier and a database server tier. The configuration parameters of the database server tier inherently include information related to configuring a database);

4) information related to configuring a message service; and

5) information related to configuring a cluster (column 10, lines 21-24 disclose a two-tier configuration including a Web server tier and a database server tier; therefore the configuration parameters of a server tier is the information related to configuring a cluster).

Regarding claims 9 and 16, the combination of Patterson and JavaServerStartup article teaches the computer based interactive tool of claim 1 and the method of claim 11, respectively.

Patterson further teaches in Fig. 2A-2C and column 11, section 2.0 "Customer Control Center" that the computer based interactive tool includes

an option to add, change and/or delete a managed server (Fig. 3A);

an option to add, change and/or delete the cluster (Fig. 3A, Fig. 4A and column 27, lines 40-48 disclose that the computer based interactive tool includes an option to add, change and/or delete the cluster); and

an option to designate a server as part of the cluster (Fig. 4A and column 27, lines 49-50 disclose that the name of the servers in a tier, i.e., a cluster, is linked to the name if the tier).

Patterson does not expressly that all the options above are realized by the second user interface. Instead, these options are distributed among several Web pages of a graphical editor (Patterson, column 19, section 3.0 "Graphical Editor").

However, it would have been obvious to one of ordinary skill to modify Patterson as such that all the options recited in the claim are included in the second user interface, because Patterson had taught about the all the configurable options in its disclosure, and the presentation

of information relating to such options in a graphical or command-line user interface is a matter of design choice that does not affect the result of the invention.

Regarding claim 10, the combination of Patterson and JavaServerStartup article teaches the computer based interactive tool of claim 1 wherein the cluster includes a set of servers that work together to provide scalability and high availability for an application (column 10, lines 1-33 disclose that one basic building block of a data center is a load balancing function that may be realized using a tier of Web servers, application servers and database servers, which inherently work together to provide scalability and high availability).

Claim 25 lists substantially the same elements of **claim 11**, but in computer readable storage medium form rather than method form. Therefore, the supporting rationale of the rejection to **claim 11** applies equally as well to **claim 25**.

Regarding claims 26, 27 and 28, the combination of Patterson and JavaServerStartup article teaches the tool of claims 1, the method of claim 11 and the machine readable medium of claim 18 respectively. Patterson further teaches that the extension template updates the domain to include at least one additional application (see the rejection of claim 1 above for the examiner's response).

Regarding claims 29-34, see the rejection of claim 1 above for the examiner's response.

2. **Claims 7, 14 and 21** are rejected under 35 U.S.C. 103(a) as obvious over Patterson as applied to claims 1, 11 and 18 above, respectively, and further in view of Sommerer ("The Java Archive (JAR) File Format", by Alan Sommerer in 1998).

Regarding claim 7, the combination of Patterson and JavaServerStartup article teaches the computer based interactive tool of claim 1.

Patterson does not teach but Sommerer teaches that Java Archive (JAR) is a file format based on the popular ZIP file format and is used for aggregating many files into one.

Therefore, it would have been obvious for one of ordinary skill in the art to bundle files and resources contained in a domain template into a JAR file. One would have been motivated to do so for the ease of multiple file transport over the network.

Claim 14 lists substantially the same elements of **claim 7**, but in method form rather than interactive tool form. Therefore, the supporting rationale of the rejection to **claim 7** applies equally as well to **claim 14**.

Claim 21 lists substantially the same elements of **claim 7**, but in computer readable storage medium form rather than interactive tool form. Therefore, the supporting rationale of the rejection to **claim 7** applies equally as well to **claim 21**.

3. **Claims 8, 15** are rejected under 35 U.S.C. 103(a) as obvious over Patterson as applied to claims 1 and 11 above respectively, and further in view of Aziz et al.(U.S. Patent No. 6,597,956, hereinafter "Aziz").

Regarding claim 8, the combination of Patterson and JavaServerStartup article teaches the computer based interactive tool of claim 1. Patterson does not teach that a third user interface is used to designate and/or configure an administration server.

However, Patterson discloses in Fig. 1D and column 9, lines 36-39 that an administration server comprises one or more farm managers wherein a farm manager manages one or more virtual server farms. Therefore, Patterson's farm manager is equivalent to the administration server recited in the claim.

Aziz further discloses that farm managers are allocated by and assigned to one or more virtual farms by the master segment manager to establish, configure and maintain virtual server farms (column 14, lines 46-49). Therefore, it is inherent in Aziz that there exists a user interface for designating and/or configuring the farm manager.

It would have been obvious for one of ordinary skill in the art to combine Patterson and Aziz so that the interactive configuration tool comprises a third user interface that is used to designate and/or configure an administration server. One would have been motivated to combine as such because the user interface gives a system administrator more control over the allocation and management of resources in the control plane.

Regarding claims 15, the combination of Patterson and JavaServerStartup article teaches the method of claim 11.

Patterson does not explicitly disclose that the computer based interactive tool includes an option to designate and/or configure an administration server.

However, Patterson discloses in Fig. 1D and column 9, lines 36-39 that an administration server comprises one or more farm managers wherein a farm manager manages one or more

virtual server farms. Therefore, Patterson's farm manager is equivalent to the administration server recited in the claim.

Aziz further discloses that farm managers are allocated by and assigned to one or more virtual farms by the master segment manager to establish configure and maintain virtual server farms (column 14, lines 46-49). Therefore, it is inherent in Aziz that there exists a user interface for designating and/or configuring the farm manager.

It would have been obvious for one of ordinary skill in the art to combine Patterson and Aziz so that the interactive configuration tool comprises an option to designate and/or configure an administration server. One would have been motivated to combine as such because such an option gives a system administrator more control over the allocation and management of resources in the control plane.

Claims 18-24 each lists all the same elements of **claims 11-17, respectively**, but in machine readable storage medium form rather than method form. Therefore, the supporting rationale of the rejection to **claims 11-17** applies equally as well to **claims 18-24, respectively**.

Conclusion

THIS ACTION IS FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHIRLEY X. ZHANG whose telephone number is (571)270-5012. The examiner can normally be reached on Monday through Friday 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. X. Z./

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Examiner, Art Unit 2444

11/12/2008

/Paul H Kang/

Primary Examiner, Art Unit 2444